



IEEE CINCINNATI SECTION NEWSLETTER - APRIL 2008

APRIL MEETING **"RE-ENGINEERING THE CITY"**

DATE: Thursday, April 24, 2008
PLACE : Raffel's – 10160 Reading Road (see below for directions)
TIME : 5:30 p.m. to 6:00 p.m. - Social Time
6:00 p.m. to 7:00 p.m. - Dinner
7:00 p.m. to 8:30 p.m. - Presentation

COST FOR DINNER: \$10.00 per person – REGARDLESS OF MEMBERSHIP OR MEMBERSHIP GRADE!

NOTE: DINNERS ARE ALWAYS OPTIONAL - YOU MAY ATTEND THE PROGRAM ONLY.

MENU SELECTIONS: Stuffed Pasta Shells, BBQ'd Ribs, Marinated Grilled Chicken Breast, Au Gratin Potatoes, Seasoned Green Beans, Cole Slaw, Tossed Salad, Rolls, Assorted Cheese and Fruit Filled Tarts, Coffee, Tea, Iced Tea, Soft Drinks. There is also a bar available for the purchase of alcoholic drinks.

LOCATION: Raffel's is located at 10160 Reading Road, south of Glendale-Milford Road on the east side of Reading. Take I-75 to the Glendale-Milford Rd. Exit, go east on Glendale-Milford Road approximately $\frac{3}{4}$ of a mile to Reading Rd. and turn right on Reading.

RESERVATIONS: Please email Fred Nadeau for reservations at <mailto:fnadeau1@earthlink.net> (preferred) or call the Section Voice Mail at 513-629-9380 by **Noon, Tuesday, Apr. 22, 2008** if you plan to attend. Please leave your Name, IEEE Member Number, and a daytime telephone number.

PE CREDITS: Depending on the subject matter, attendance at IEEE Cincinnati Section Meetings now qualifies the attendee for Professional Development Hours towards renewal of Professional Engineers Licenses. Required documentation will be available following the meeting! The Section Meetings also provide a great opportunity to network with fellow engineers in the area.

ABOUT THE MEETING: This month's presentation, to be given by Professor James A. Stever, will cover new and/or current technologies and integrated techniques being brought to bear against the threat of terrorism and the management of such crisis.

ABOUT THE SPEAKER: Professor Stever (Ph.D., Political Science, Purdue University, 1974), is the Director for the Center for Integrated Homeland Security and Crisis Management, Department of Political Science University of Cincinnati. He is widely published in professional journals, and is currently developing intergovernmental management models to combat terrorism. He draws upon 30 years experience in the field of public administration and intergovernmental management—including employment at the Government Accountability Office and experience as an intelligence officer. He has assessed the capacities of existing

intergovernmental institutions and policies to ensure agricultural security and has developed new intergovernmental models based on this assessment, including research for the US Department of Agriculture, the Department of Defense, and work for multiple state and local emergency management agencies

MEMBERSHIP NEWS

NEW MEMBERS

The following individuals are IEEE members who are new to our Section:

Frank Auffinger	Randy Jenkins	David Minshall
Thomas Glenn Barker	Pritpal Kandah	Jerry Pike
Matt Brungs	Timothy Kassis	Ronald Springer
Luis D. Canisalez	Geoffrey George Fritz Kuester	Tim Francis Tolle
Robert A. Clemens	Eric L. Lapresto	Xin Wang
Colin Flynn	Daniel Legg	Gwen Rene White
Grant Horning	Michael R. Logies	Robert L. Withrow
Xuchu Hu	James Russell Lord	Toby Zou

We wish to welcome these new members to the Cincinnati Section!!!

Scanning the Past: A History of Electrical Engineering from the Past

Submitted by Bob Morrison, Editor

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James K. Clapp

Sixty-five years ago this month, the PROCEEDINGS OF THE INSTITUTE OF RADIO ENGINEERS (IRE) included a paper on antenna-measuring instrumentation by James K. Clapp. At the time he was employed as an engineer with the General Radio Company of Cambridge, MA, where he spent most of his professional career.

Clapp was born in December 1897 in Denver, CO. He worked for the American Marconi Wireless Telegraph Company during 1914-1916. He served in the United States Navy from 1917 to 1919 and worked briefly for the Radio Corporation of America in 1920. He graduated with a degree in electrical engineering from the Massachusetts Institute of Technology (MIT) in 1923 and earned an M.S. at MIT in 1926. He taught communications engineering at MIT from 1923-1928. Also, he served as radio editor for the Boston Evening Transcript and as chief engineer of the newspaper's radio broadcasting station. In 1928 he joined the engineering staff of the General Radio Company and the following year published a Proceedings paper on short-wave radio experiments. One of his first assignments at General Radio was to develop a commercial quartz crystal frequency standard.

In his April 1930 paper, Clapp described a portable instrument which he had designed for the United States Coast Guard to be used to measure the characteristics of shipboard antennas. His instrument relied on a substitution method where measurements on the actual antenna being tested were compared to measurements on a "phantom antenna" with calibrated capacitance and resistance. A variable-frequency vacuum-tube oscillator was used to drive the antenna during testing and a frequency meter covering the range from 90 to 2000 kHz was included in the instrument package. Clapp noted that his instrument could give readings of antenna resistance and capacitance to an accuracy of better than 1% and that an operator with limited skill and experience could use it successfully. He included some data giving experimental results for some antennas he had tested.

In 1933, Clapp designed a transmitter for the United States Naval Observatory for use in transmitting time signals. He also developed a primary frequency standard for the Radio Broadcast Commission of Canada. He was elected a Fellow of the IRE in 1933. Much of his work in the 1930's was related to applications of quartz crystals and on instruments to measure frequency. He pioneered in developing techniques to extend frequency standards into the microwave region.

Clapp retired from General Radio in 1957 and died in 1965 at age 67.

*James E. Brittain
School of History , Technology and Society
Georgia Institute of Technology*

IEEE NEWS

LOCAL TV REPORTS ON ENGINEERING, SCIENCE HIGHLIGHT IEEE TECHNOLOGIES THAT BENEFIT SOCIETY

WASHINGTON (11 March 2008) -- As part of its public-awareness program to promote engineering and technological literacy, IEEE-USA is continuing to underwrite local television news reports on engineering and science in 2008. The TV news reports are distributed to local U.S. television stations, in more than 100 cities; to transit systems, in seven U.S. cities; and through the Voice of America and Roo Online Video Network, in more than 60 countries.

Recent TV news reports on IEEE technologies have included segments on:

- electrical engineers who have designed a pair of glasses that helps people with Parkinson's walk with less difficulty
- a robotic car created by computer scientists and engineers that can operate autonomously
- sensors designed by engineers that are placed on regional airliners to gather information on weather sent to satellites and routed to weather centers
- a video game designed by computer scientists and public-health professionals to prepare workers to respond to national emergencies
- a new technique developed by biomedical engineers to detect colon cancer

Additional TV news reports on IEEE technologies include:

- a hands-free computer mouse created by computer scientists and electrical engineers allowing individuals who cannot use their arms to browse the Web, play video games, or use photo editing software
- a spray paint developed by engineers to coat bridges with carbon nanotubes allowing inspectors to check for damage without depending on visual indications
- a boot created with biomedical engineering principles that fits over a supportive cast making it easier to walk without crutches
- a process created by biomedical engineers that makes it easier to create a custom nose shape for patients
- an approach conceived by electrical engineers that uses multiple wavelengths of light to see through the skin in order to measure the amount of carbon monoxide in the blood

The "Discoveries & Breakthroughs" TV news service, developed by the American Institute of Physics (AIP) with a coalition of 23 technical professional organizations including the IEEE, delivers 12 vetted 90 second TV reports monthly -- in English and Spanish -- with a potential reach of up to 75 million TV viewers, and an estimated 41 million online views per month. Research has documented that the public obtains most of its information about engineering and science from local TV news and that viewers of the "Discoveries & Breakthroughs" service are more likely to support engineering and science than those who are not viewers.

IEEE-related technology stories have their own Web site at <http://www.aip.org/dbis/IEEE>

"Discoveries & Breakthroughs" is seeking new story ideas to include in its TV reports incorporated in local TV news broadcasts. Pitches should be directed to AIP Senior Science Editor/Writer Emilie Lorditch at elordite@aip.org

PRESIDENT'S SCIENCE ADVISER TO ADDRESS IEEE INTERNATIONAL HOMELAND SECURITY CONFERENCE

WASHINGTON (17 March 2008)-- Dr. John Marburger, science adviser to President Bush, will be the keynote speaker at the 2008 IEEE International Conference on Technologies for Homeland Security.

The eighth-annual conference is scheduled for 12-13 May at the Westin Hotel in Waltham, Mass. For more information and to register, go to <http://www.ieeehomelandsecurityconference.org>

The National Science and Technology Council, Nuclear Defense Research and Development Subcommittee, calls the conference "the key homeland security conference in 2008 to share the U.S. nuclear defense research and development roadmap with the global technology innovation community."

Marburger, director of the Office of Science and Technology, came to the Executive Office of the President after serving as director of the Brookhaven National Laboratory in Upton, N.Y. He was president of the State University of New York at Stony Brook from 1980-84, and before that a professor of physics and electrical engineering at the University of Southern California. While at the Los Angeles school, he developed theory for various laser phenomena and co-founded USC's Center for Laser Studies.

General themes of the conference are:

- * Transportation security focused on chemical, biological and high explosives, with special sessions on radiological and nuclear areas
- * Infrastructure protection and cyber security, with emphasis on protecting the financial sector, communications and electric power networks, and focusing on threats to the chemical and refinery sectors
- * Information sharing, interoperability and incident management technologies, high-level risk assessment and supporting technologies of modeling and simulation, emphasizing tools development
- * Software assurance focused on software development, testing, legacy systems and infrastructure

The U.S. Department of Homeland Security (DHS), Science and Technology (S&T) Directorate, is providing technical assistance to support the conference. Robert Hooks, Director of Transition, DHS S&T Directorate, is the featured speaker and participated in the technical paper review committee.

About 200 selected technical papers from around the world will be featured, and more than 500 technology experts are expected to attend. The conference is organized by the IEEE Boston Section and IEEE-USA. Industry sponsors include Massport, SAIC, Raytheon, Qwest, PSSG and ARES.

REACHING OUT TO WASHINGTON 'INFLUENTIALS' TO HIGHLIGHT ENGINEERS' COMMUNITY SPIRIT

WASHINGTON (20 March 2008) -- IEEE-USA is reaching out to some 400,000 influential Washington, D.C.-area listeners of the U.S. capital's only classical music radio station, WETA-FM (90.9), with a brief message about the organization's mission to advance the public good and to promote the career and technology-policy interests of U.S. IEEE members. Through this and other public-awareness activities, IEEE-USA seeks to

counter a public perception, cited in the most recent Harris opinion poll on engineers and scientists, that engineers show less interest in their local communities than scientists. The first of some 30 15-second promotional announcements began airing on WETA-FM on 4 January and will continue through the end of 2008. The announcements are run in conjunction with the FM station's National Public Radio newscasts, "The NewsHour with Jim Lehrer," and the Saturday afternoon opera broadcasts. WETA online banner ads also highlight IEEE-USA's support for community activities such as the Engineers Week Discover Engineering Family Day and outreach efforts such as Congressional Visits Day. IEEE members can hear the announcements online at <http://www.weta.org/fm/>.

2ND IEEE INTERNATIONAL RFID CONFERENCE FEATURES 44 PAPERS BY LEADING RFID EXPERTS

WASHINGTON (3 April 2008)-- The second International Conference on RFID (IEEE RFID 2008) will feature 44 technical papers by leading Radio Frequency Identification (RFID) researchers from around the world.

Dr. Daniel Engels, IEEE RFID 2008 program chair, assembled a distinguished international program committee of engineers, academic researchers and scientists to review the 124 papers submitted by more than 280 technical authors at major universities, research institutions and companies in 25 countries.

"The quality of the research and writing in this year's submissions was even stronger than last year," said Engels, an assistant professor and director of the Radio Frequency Innovation & Technology Center at the University of Texas at Arlington. "The topics and panels at IEEE RFID 2008 span a broad spectrum from antenna design to security techniques, and from integrated sensors to smart environments."

IEEE RFID 2008 will address the technical and policy challenges of RFID technologies and examine job opportunities at the Venetian Resort-Hotel-Casino in Las Vegas, 16-17 April.

For more information, see <http://www.ieee-rfid.org/2008>. You can register through partner RFID Journal Live! by going to http://www.rfidjournalevents.com/live/registration_options.php. Choose <https://www.one-stop-registration.com/rfidlive/OSR.Index>.

The peer-reviewed papers are grouped into 11 technical areas in three tracks each day. Topics are: Testing & Evaluation Systems; Antenna Theory and Design; Circuits and Architectures; Security, Localization and Tracking; RF Investigation and Utilization; Collision Avoidance; Tools for Design and Evaluation; System Deployment; and Smart Environments.

In addition, invited papers will spotlight the latest in shared data research on such topics as distributed management of RFID intelligence, RFID in harsh environments and outer space, RuBee (IEEE standard P1902.1), and RFID and sensors in industry.

An enabling technology, RFID uses tags and readers to transmit a unique number. The tags store information on a microchip connected to a radio antenna, while the readers emit radio waves that exchange signals with the tags.

IEEE RFID 2008 is co-located with RFID Journal Live! executive conference and exhibition (<http://www.rfidjournalevents.com/live/>).

IEEE-USA and the IEEE TAB New Technology Directions Committee (http://www.ieee.org/web/volunteers/tab/tab_507.html) are financial co-sponsors for IEEE RFID 2008. IEEE-USA President Russ Lefevre chairs the committee.

IEEE RFID 2008 is funded in part by a U.S. Army Research Office grant of \$5,000, which represents seven percent of the total estimated cost of the conference.

The IEEE Cincinnati Section Executive Committee **Member Names and Phone Numbers**

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